

Application No. 10/763,135
Amendment Dated November 3, 2010
Reply to Office Action of September 15, 2010

REMARKS/ARGUMENTS

By this Amendment no claims are amended. No claims are added or cancelled. Claims 35, 36, 38-42, 44-52, 54 and 58-63 are pending in the application.

Favorable reconsideration is respectfully requested in view of the foregoing amendments and the following remarks.

The Applicants acknowledge that the Examiner has indicated allowable subject matter in claims 36, 40 and 41.

The Examiner rejects claims 35, 38, 39, 42, 44-48, 54 and 61-63 under 35 U.S.C. 103(a) as being unpatentable over Fellenstein et al. (U.S. Patent No. 7,406,691B2) (Fellenstein), in view of Barsness et al. (U.S. Patent No. 7,379,884 B2) (Barsness), and further in view of Chen et al. (U.S. Pub. No. 2003/0009580) (Chen).

The Examiner believes that Fellenstein in view of Barsness does not teach allocating resources in accordance with the monetary penalty amount specified by a service level agreement. However, the Examiner believes that Chen teaches that the quality of service depends on the terms of a service level agreement between the user and the service domain, processed by the controller into a set of policies to be applied, and that the policies include dynamic selection and allocation of the network resources so as to transmit the data stream with the expected quality of service. The Examiner also believes that Chen teaches allocating resources based on the penalties and monitoring pre-defined service requirements, and that the monetary penalty is specified in the SLA.

Furthermore, the Examiner believes that it would have been obvious for one of ordinary skill in the art at the time of the invention to combine Fellenstein in view of Barsness with Chen to include penalty cost in the SLA in order to economically allocate a resource based on the penalties associated with the problem.

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In the Applicants' invention a number of nodes in a cluster execute applications pursuant to a service level agreement (SLA). When the terms of the SLA cannot be met, more servers are requested from a remote location. The decision whether to allocate more servers to meet the demand is negotiated on the basis of dollar amounts as specified by the SLAs, rather than basing the decision only on the conventional calculations of the actual computing resources. In making these decisions the Applicants' invention considers factors such as the dollar cost of not meeting a requirement of the SLA, including the SLA specified dollar penalties for not meeting the requirements of the SLA, the dollar costs of accepting the resources granted, etc.

More specifically, the decision whether to allocate additional servers depends on the dollar value of the penalties as set by the SLA for not meeting the requirements of the SLA. Thus, the Applicant's system may intentionally fail to meet a requirement of an SLA if it determines that it is more cost effective to do so, in spite of the monetary penalties imposed by the SLA for doing so. Therefore, the Applicants' Claims 61, 62 and 63 recite a limitation directed to allocating at least one server in accordance with a monetary penalty amount for a failure to meet a requirement of the service level agreement.

The Applicants' Claim 61 therefore sets forth a method for determining whether to support an application workload at a local cluster of nodes using a resource at a remote location remote from the local cluster. The claimed method includes receiving at the remote location from the local cluster a request for at least one server node determined at the local cluster in accordance with a threshold of performance requirements of the local cluster. The request specifies a number of nodes requested, a time duration for which the requested nodes are needed, and a monetary value determined in accordance with a monetary penalty amount specified by a service level agreement for a failure to meet a requirement of the service level agreement. An acceptance of the request is transmitted from the remote location to the local cluster in accordance with the monetary value. The at least one server node is allocated in accordance with the monetary penalty amount for the failure to meet the requirement of the service level agreement.

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Chen teaches a system for controlling QoS according to terms of an SLA between a user and a service domain. Furthermore, Chen teaches a resource management scheme for directly linking SLAs with policy control when enforcing SLAs for enabling dynamic selection and reconfiguration of resources in a network. Thus, Chen's SLAs are incorporated into the QoS resource management protocol. The SLAs are used to facilitate a close association between predefined service requirements and constraints on the performance of the networks. As cited by the Examiner, Paragraph [0017] of Chen states:

...For example, it allows operations staff to prioritise diagnosis and problem resolution issues, such as reallocating the QoS resources based on penalties associated with the problems. (Emphasis added)

Additionally, Paragraph [0035] of Chen states:

QoS control and resource management in each network domain is performed by applying Policy-based QoS resource control and management where the policies are derived from SLA's to reflect the constraints over the selection, allocation and performance of the network bearers, the corresponding cost and even the associated penalties that are defined in the Intra-domain SLA's. (Emphasis added)

A search of Chen reveals that the foregoing are the only two references to "penalties" that appear. However, the Applicants submit that a close reading of these paragraphs does not reveal. Therefore, even though Chen teaches that penalties are associated with the SLAs, Chen does not teach that the associated penalties referred to are monetary penalties.

In fact, a search of Chen reveals that Chen is completely silent with respect to money, dollars or values.

Additionally, Chen makes two references to the "costs" associated with an SLA. See Paragraph [0016] which states:

Furthermore SLA's ensure that customers have a clear understanding of QoS expectations and the associated costs. The

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ability to measure and manage service quality enables service providers to offer different classes of service. Still furthermore, SLA's facilitate the achievement of Policy-based QoS resource management. (Emphasis added)

Paragraph [0035] of Chen states:

QoS control and resource management in each network domain is performed by applying Policy-based QoS resource control and management where the policies are derived from SLA's to reflect the constraints over the selection, allocation and performance of the network bearers, the corresponding cost and even the associated penalties that are defined in the Intra-domain SLA's. (Emphasis added)

However, neither of these two references to the "costs" associated with the SLA teaches that the "costs" referred to are monetary costs.

Furthermore, while there is no teaching that the "costs" are monetary costs, several other costs associated with an SLA are taught in Chen. For example, Chen refers to competitive costs (not allowing service providers to differentiate their QoS from their competition), monitoring and communicating performance to customers, determining what traffic is allowed to access the network, and determining what traffic is discarded if there is congestion. The Applicants respectfully submit that it is unlikely that Chen would list some costs associated with the SLAs, and leave out monetary costs, if it was intended that monetary costs should be considered in making decisions regarding allocation of resources.

Therefore, the Applicants submit that Chen does not teach allocating a sever node in accordance with a monetary penalty amount for failure to meet a requirement of a service level agreement. as required by claims 61, 62, 63. Accordingly, claims 61, 62, 63 are believed to be allowable. Furthermore, the remaining claims depend either directly or indirectly from claim 63 and are believed to be allowable for at least the same reasons.

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For at least the reasons set forth above, it is respectfully submitted that the above-identified application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are respectfully requested.

Should the Examiner believe that anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Please charge or credit our Account
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Respectfully submitted,
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